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A STUDY OF THE CREDIT GRANTED TO HIGH-SCHOOL GRADUATES

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This article presents the results of an analysis of the credits granted to high-school graduates, not on the basis of published announcements, catalogues, and programs of study of the schools from which they were graduated, but on the basis of credit actually accepted toward graduation, i.e., it is a study of the granting of credit as it works out in practice.

The data utilized for the study were supplied by the heads of eleven estimable secondary schools[1] in and near Chicago and include, for the most part, the kinds and amounts of credit granted by the schools to members of the classes graduated in June, 1915. As it is not necessary, in order to have the facts represent the situation fairly, to include in the study the data concerning all the members of the graduating classes, each principal was asked to supply only the data for the first 32 in the list of graduates when alphabetically arranged. The data finally incorporated concern a total of 312 graduates distributed as follows: 32 graduates of each institution except of Schools 1, 4, 5, and 8, for which the numbers of graduates concerned are respectively the first 24, 14, 20, and 30 when alphabetically arranged. For School 6 the facts used concern the first 32 boys, alphabetically arranged.

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[1] For the sake of convenience these schools will be designated by number. The numbers and the corresponding names of the institutions are as follows:

School 1, Blue Island Township High School; School 2, East Aurora High School; School 3, Elgin High School; School 4, Hinsdale Township High School; School 5, J. Sterling Morton High School; School 6, Lewis Institute; School 7, New Trier Township High School; School 8, Oak Park and River Forest Township High School; School 9, Proviso Township High School; School 10, Thornton Township High School; School 11, University High School.

THE AMOUNTS OF CREDIT WITH WHICH STUDENTS ARE GRADUATED

One item of interest and significance is the total amount of credit with which students who complete the work in four years or less are graduated. The facts concerning this are presented in Table I, which is so arranged that the vertical column at the left indicates the number of units of credit received by the students, while the horizontal column at the top contains the numbers by which we are designating the schools. The table contains the data for those 256 (of the total of 312) students who were graduated in four years or less. It needs to be said that the data from

TABLE I

TOTAL UNITS OF CREDIT GRANTED TO STUDENTS GRADUATED IN FOUR YEARS OR LESS

Number of Units	School											Total	Percentage
	1	2	3	4	5	6	7	8	9	10	11		
14.0–14.4	....	....	....	....	....	8	....	....	....	....	....	8	3.1
14.5–14.9	....	....	....	....	2	....	....	....	....	....	....	2	0.8
15.0–15.4	1	....	....	....	....	15	....	....	....	....	....	16	6.2
15.5–15.9	3	....	....	....	....	....	....	....	....	....	....	3	1.2
16.0–16.4	5	9	5	5	2	5	3	16	16	7	5	78	30.4
16.5–16.9	1	7	4	7	1	....	7	6	10	16	5	64	25.0
17.0–17.4	3	3	4	1	....	3	9	1	....	4	5	33	12.3
17.5–17.9	1	....	4	....	3	....	2	3	2	3	3	21	8.2
18.0–18.4	7	....	1	....	....	....	....	....	1	1	2	12	4.7
18.5–18.9	3	....	....	....	....	....	1	....	....	1	2	7	2.7
19.0–19.4	....	....	1	....	1	....	1	....	....	....	3	6	2.3
19.5–19.9	....	....	....	....	2	....	....	....	....	....	....	2	0.8
20.0–20.4	....	....	....	....	....	....	....	....	....	....	1	1	0.4
20.5–20.9	....	....	....	....	1	....	....	....	....	....	1	2	0.8
21.0–21.4	....	....	....	....	....	1	....	....	....	....	....	1	0.4
Total	24	19	19	13	12	32	23	26	29	32	27	256	99.3

Schools 1 and 6 were supplied in such a form as to make it uncertain whether or not all the students concerned had been graduated in four years or less, but the proportion of these cannot be so large as to invalidate more than to a slight extent, if at all, the general result.

Scrutiny of this table offers a number of significant findings. A small proportion of the students, 11.3 per cent, were graduated with less than 16 units of credit, and most of these were graduated from a single institution. In other words, these schools very generally follow the practice of conforming to the usual minimum requirement of 16 units. More than half of the students complete the work with 16.0 to 16.9 units of credit. Of these graduates, 149, or 58.2 per cent, were granted 16.5 units of credit or more. If we add to these the 34 students in the 16.0 to 16.4 category who were granted more than 16.0 units, we have a total of 183, or 71.5 per cent, who received more than 16.0 units, a few of these receiving even more than 20 units. This represents a marked departure in practice from the principle set forth in the statement appended in February, 1913, to the "Definition of the Unit" by the National Conference Committee on the Standards of Colleges and Secondary Schools: "A four years' secondary-school curriculum should be regarded as representing not more than 16 units of work." In these schools, which, the writer believes, may be taken to typify the practice in the best secondary schools of the Middle West, the secondary-school curriculum *does* for most of the graduates represent more than 16 units of work. This tendency indicates that either the definition or the practice should be modified. If it can be shown that the present practice is the result of relatively uncontrollable forces, we shall be urged to the opinion that the National Conference Committee did not say the right nor the last word in the matter of unit definitions. If this tendency is a consequence of the recent enrichment of high-school programs of study, and a resulting desire of the students to come into contact with a wider range of subjects of study as well as of the principals' readiness to conform to this desire, it may point to an extension of the period of secondary education along the line of present tendencies toward reorganization of the secondary school.

THE AMOUNT OF CREDIT GRANTED TO STUDENTS DURING EACH HIGH-SCHOOL YEAR

Another important administrative matter is the amount of credit that may be granted the student during any single school year. The facts concerning this aspect of the study are presented in Tables II–V. In these tables we have again used data concerning only students who were graduated in four years or less. The material from Schools 1 and 6 was compiled in such a manner as to preclude its use at this point. The variation from table to table in the total number of students included in this aspect of the study (193, 192, 196, and 194 respectively) is due to the transfer of a few students from some other school to some school within this group. The loss of 2 students in the fourth year is accounted for by their graduation at the end of the third year.

TABLE II

Units of Credit by Years Granted to Students Graduated in Four Years or Less

FIRST YEAR

School*	Number of Students Receiving												Total
	Less than 2.0	2.0 to 2.4	2.5 to 2.9	3.0 to 3.4	3.5 to 3.9	4.0 to 4.4	4.5 to 4.9	5.0 to 5.4	5.5 to 5.9	6.0 to 6.4	6.5 to 6.9	7.0 to 7.4	
2	....	....	....	....	1	11	6	1	....	....	....	....	19
3	....	....	....	....	1	11	5	2	....	....	....	....	19
4	....	....	....	2	....	8	1	2	....	....	....	....	13
5	1	....	....	1	3	2	4	....	....	....	....	1	12
7	1	....	....	4	3	10	2	3	....	....	....	....	23
8	....	....	....	....	1	22	3	....	....	....	....	....	26
9	....	....	....	....	4	12	4	7	....	....	....	....	27
10	....	2	1	5	4	15	4	1	....	....	....	....	32
11	....	....	....	....	1	3	3	7	3	2	3	....	22
Total	2	2	1	12	18	94	32	23	3	2	3	1	193
Percentage	1.0	1.0	0.5	6.2	9.3	48.9	16.6	12.0	1.6	1.0	1.6	0.5	100.2

* Data not available for Schools 1 and 6.

From a study of Table II it will be seen that a total of 64, or 33.3 per cent, of the graduates received 4.5 units of credit or more for the work of the first year. The same computation for Tables III, IV, and V reveals that 74, or 38.5 per cent, 73, or 37.2 per cent, and 62, or 31.9 per cent of the students received 4.5 units

TABLE III

UNITS OF CREDIT BY YEARS GRANTED TO STUDENTS GRADUATED IN FOUR YEARS OR LESS

SECOND YEAR

SCHOOL*	NUMBER OF STUDENTS RECEIVING								TOTAL
	2.0 to 2.4	2.5 to 2.9	3.0 to 3.4	3.5 to 3.9	4.0 to 4.4	4.5 to 4.9	5.0 to 5.4	5.5 to 5.9	
2	......	......	1	2	9	6	1	......	19
3	......	......	1	1	6	8	3	......	19
4	......	......	1	......	7	2	3	......	13
5	......	1	2	1	1	5	2	......	12
7	......	......	3	3	9	8	......	......	23
8	1	......	1	......	22	2	......	......	26
9	......	......	......	1	16	8	1	1	27
10	......	1	1	3	15	5	5	2	32
11	......	1	......	......	8	3	8	1	21
Total	1	3	10	11	93	47	23	4	192
Percentage	0.5	1.6	5.2	5.7	48.4	24.2	12.0	2.1	99.9

* Data not available for Schools 1 and 6.

TABLE IV

UNITS OF CREDIT BY YEARS GRANTED TO STUDENTS GRADUATED IN FOUR YEARS OR LESS

THIRD YEAR

SCHOOL*	NUMBER OF STUDENTS RECEIVING										TOTAL
	Less than 2.0	2.5 to 2.9	3.0 to 3.4	3.5 to 3.9	4.0 to 4.4	4.5 to 4.9	5.0 to 5.4	5.5 to 5.9	6.0 to 6.4	6.5 to 6.9	
2	.....	.....	1	1	14	2	1	.....	.....	.....	19
3	.....	.....	2	2	7	4	3	1	.....	.....	19
4	.....	.....	1	1	8	.....	3	.....	.....	.....	13
5	.....	.....	1	3	2	2	2	1	1	.....	12
7	.....	.....	2	4	6	9	1	.....	1	.....	23
8	.....	.....	1	3	15	4	2	1	.....	.....	26
9	1	1	4	13	4	3	.....	.....	1	1	28
10	.....	.....	.....	2	14	11	4	.....	1	.....	32
11	.....	1	1	2	6	11	3	.....	.....	.....	24
Total	1	2	13	31	76	46	19	3	4	1	196
Percentage	0.5	1.0	6.6	15.8	38.8	23.5	9.7	1.5	2.0	0.5	99.9

* Data not available for Schools 1 and 6.

of credit or more for the work of the second, third, and fourth years, respectively. It is noteworthy that such a large proportion were granted so much more than the traditional 4 units during the Freshman year. Moreover, in the light of the practice in many schools of permitting students who are short on credit on arriving at the fourth year of their high-school work to carry 5, 6, and even 7 full-year subjects so as to make it possible for them to receive the requisite credit for graduation by the end of the fourth year, the fact that the percentage of students being granted 4.5 units or more during the fourth year is even somewhat less than for any other year speaks for a wholesome situation in this regard in the schools included in this study.

TABLE V

UNITS OF CREDIT BY YEARS GRANTED TO STUDENTS GRADUATED IN FOUR YEARS

FOURTH YEAR

School*	Number of Students Receiving									Total
	Less than 2.0	2.0 to 2.4	2.5 to 2.9	3.0 to 3.4	3.5 to 3.9	4.0 to 4.4	4.5 to 4.9	5.0 to 5.4	5.5 to 5.9	
2........	......	......	......	4	5	7	2	1	......	19
3........	......	2	1	1	4	7	2	2	......	19
4........	......	......	......	5	1	3	1	3	......	13
5........	3	......	......	......	......	2	3	3	1	12
7........	......	......	......	......	4	7	5	4	3	23
8........	......	......	......	1	......	13	6	5	1	26
9........	......	......	2	1	15	9	1	......	......	28
10........	......	......	......	2	8	11	6	3	2	32
11........	......	......	......	1	3	10	6	2	......	22
Total...	3	2	3	15	40	69	32	23	7	194
Percentage	1.5	1.0	1.5	7.7	20.6	35.5	16.5	11.8	3.6	99.7

* Data not available for Schools 1 and 6.

THE CONTRIBUTION OF CERTAIN SPECIAL SUBJECTS TO THE EXCESS CREDIT

A question that naturally arises in a study of this kind is: To what extent is the credit in excess of 16 units attributable to credit in special subjects which are taken by the student *in addition* to the traditional four units per year in the traditional subjects, and taken in addition because these special subjects are not considered by the school as on a par with the traditional subjects? In other words, does the practice in granting credit indicate that the schools are in effect saying to the student, "You may have this work in the special subjects, but you must offer for graduation in addition 16 units of work in the traditional subjects"? Table VI presents the results of an effort to obtain an answer to this question in the material used in this study. That supplied by Schools 1, 5, and 6 was not utilizable for this purpose.

It is to be noted that 154 students of the total of 188 who were graduated from the 8 schools supplying usable data were graduated with an excess over 16 units, and that the total excess is 153.025 units, or almost a unit per graduate. Of this total, 127.05 units are seen to be consumed by such special subjects as music, physical training, penmanship, spelling, and public speaking. But, as it was not considered that this alone is an adequate basis upon which to decide whether or not most of the excess credit is attributable to the credit granted for the special subjects, inasmuch as students have varying amounts of it, sometimes equal in amount to the excess, sometimes more, and sometimes less, the problem was attacked from another angle. The results of this second method of attack are shown in the last 3 vertical columns in Table VI, which present the status of the students' credit after subtracting credit in the special subjects named. These columns indicate that 29 graduates have just 16 units of credit remaining after subtracting the credit for these special subjects, 70 still have an excess after such subtraction, while, for the 55 remaining graduates, subtracting the credit for these special subjects dips down into the 16 units. When subtracting the credit for special subjects dips down into the 16 units, we may say with fair assurance that the credit in these subjects is being placed on a par with that in the traditional subjects, and, since it does so with more than a third of the students here given consideration, we have evidence of a marked tendency so to recognize it. We are not warranted, on the other hand, in concluding that, because there are still 16 or more units of credit remaining after subtracting the credit for the special subjects, the heads of

TABLE VI

A STUDY OF THE CONTRIBUTION OF CERTAIN SPECIAL SUBJECTS TO THE EXCESS CREDIT

School*	Number with Excess over 16 Units	Total Excess over 16 Units	Consumed by Special Subjects	Names and Amounts of Credit in Special Subjects		Status of Students' Credit after Subtracting Credit for Special Subjects		
						Number with 16.0 Units	Number with Excess	Number with Less than 16.0 Units
2.......	12	9.5	13.0	Music Penmanship Public speaking	9.5 3.25 0.25	......	5	7
3.......	14	18.375	24.5	Music Physical training Public speaking	9.5 8.5 6.5	......	4	10
4.......	13	6.5	5.4	Music Physical training	2.175 3.225	10	3	......
7.......	23	26.0	23.2	Music Physical training Music and physical training	8.9 12.4 1.9	3	10	10
8.......	10	8.5	1.5	Music	1.5	......	9	1
9.......	26	15.7	9.5	Music Penmanship Spelling Physical training Oral expression	3.0 4.8 1.3 0.3 0.1	3	14	9
10.......	32	27.0	23.6	Music (chorus) Physical training Penmanship Spelling Penmanship and spelling	5.0 9.0 5.9 2.9 0.8	8	13	11
11.......	24	41.45	26.35	Physical training and music Public speaking Physical training Chorus and music	22.0 3.55 0.4 0.4	5	12	7
Total...	154	153.025	127.05	....		29	70	55

* Data not available for Schools 1, 5, and 6.

TABLE VII

SEQUENCES AS SHOWN BY THE CREDITS GRANTED BY THE HIGH SCHOOLS TO 312 GRADUATES

SCHOOL	TOTAL NUMBER OF STUDENTS	ENGLISH			WITHOUT FOREIGN LANGUAGE	FOREIGN LANGUAGE								WITHOUT MATHEMATICS	MATHEMATICS					WITHOUT SCIENCE	SCIENCE					WITHOUT HISTORY	HISTORY				
		2.1 to 3.0	3.1 to 4.0	4.1+		0.1 to 1.0	1.1 to 2.0	2.1 to 3.0	3.1 to 4.0	4.1 to 5.0	5.1 to 6.0	6.1 to 7.0	7.1+		0.1 to 1.0	1.1 to 2.0	2.1 to 3.0	3.1 to 4.0	4.1+		0.1 to 1.0	1.1 to 2.0	2.1 to 3.0	3.1 to 4.0	4.1+		0.1 to 1.0	1.1 to 2.0	2.1 to 3.0	3.1 to 4.0	4.1+
1	24	......	24	......	2	4	2	2	4	3	3	4	......	0	5	15	4	......	......	0	1	9	13	1	......	4	6	10	3	1	......
2	32	13	18	1	5	2	5	5	5	5	2	3	......	0	4	9	11	5	3	3	7	8	12	2	......	0	8	7	11	6	......
3	32	13	18	1	11	6	......	6	5	3	......	1	......	0	......	22	8	2	......	0	8	13	6	5	......	0	2	14	12	3	1
4	14	2	12	......	1	......	3	3	3	1	2	1	......	0	1	8	5	......	......	1	2	7	3	1	......	0	3	4	6	1	......
5	20	6	9	5	3	2	4	4	3	2	1	......	1	0	10	3	5	1	1	0	6	6	3	3	2	4	10	3	3	......	......
6	32	28	4	......	4	3	7	7	3	3	2	2	1	0	......	7	18	7	......	1	2	12	13	4	......	5	17	7	3	......	......
7	32	7	23	2	0	3	9	7	6	5	2	......	......	0	......	10	18	4	......	0	......	14	8	9	1	0	8	10	9	4	1
8	30	......	29	1	0	1	5	5	3	6	7	2	1	0	......	7	20	3	......	0	16	8	3	3	......	0	......	24	5	1	......
9	32	7	25	......	1	......	9	8	5	6	2	1	......	0	5	12	14	1	......	0	8	12	10	2	......	0	1	8	10	9	4
10	32	10	22	......	4	5	5	12	6	......	......	......	......	0	2	10	16	4	......	0	6	9	12	5	......	1	7	10	12	2	......
11	32	30	2	......	0	......	......	4	6	4	8	6	4	0	4	13	11	3	1	2	16	8	6	......	......	0	12	6	9	5	......
Total	312	116	186	10	31	26	49	63	49	38	29	20	7	0	31	116	130	30	5	7	72	106	89	35	3	14	74	103	83	32	6
Percentage	....	37.2	59.6	3.2	9.9	8.3	15.7	20.2	15.7	12.2	9.3	6.4	2.2	....	9.9	37.2	41.7	9.6	1.6	2.2	23.1	34.0	28.5	11.2	1.0	4.5	23.7	33.0	26.6	10.3	2.0

the schools are refusing to place those subjects on a par with the more traditional ones.

ANALYSIS OF THE CREDIT BY SUBJECTS

Table VII presents the results of an analysis by subjects of the credit granted to all the 312 graduates concerned in this study, irrespective of the number of years the student was in high school before completing the work. Only credit for work in the five more traditional fields has been tabulated. The table is to be read in the following manner: Of the 24 graduates of School 1 incorporated in this study all were granted from 3.1 to 4.0 units of credit in English, 2 were graduated without foreign language, 4 with 0.1 to 1.0 unit, etc. The totals and corresponding percentage distributions for all the 312 graduates will be found in the two lowest horizontal columns of the table.

A few minor limitations on obvious interpretations need to be set down before proceeding to the more outstanding lessons of the table. The upper limit of each category of distribution may be accepted as the prevailing amount of credit granted under that category, e.g., 2.1 to 3.0 units of credit in English usually means 3 units of credit in English. The more important exceptions are given here. School 9 does not grant full units of credit in English for each year, granting in many instances for the 4 years of English some such respective amounts as these: 0.9, 0.9, 0.8, 0.8. School 3 has granted 3.5 units in English in a few cases. About half of the students in the 2.1 to 3.0 category in mathematics have credit for 2.5 units. Ten of the graduates of School 7 who have been tabulated under the category 1.1 to 2.0 in science have actually received 1.2 units in that field, 7 credited with 2.1 to 3.0 have received 2.2, and 4 credited with 3.1 to 4.0 have received 3.2. This is due to what seems to be a requirement in this school of 0.2 unit in physiology in conformity to statutory requirement in Illinois. A somewhat similar situation appears for School 8, where 15 graduates are credited with 0.1 to 1.0 unit in science when they have received 0.5 unit, while 6 and 2 others, respectively, are credited with 1.1 to 2.0 and 2.1 to 3.0 units when they have received 1.5 and 2.5 units in this field. It needs to be noted further that credit for business English has not been included in the credits reported for English, unless it has been unwittingly so included in the table in working over the data furnished by Schools 1, 5, and 6, which have specified no business English in the data supplied; that mathematics includes only elementary and advanced algebra, plane and solid geometry, and trigonometry; that history includes all the social studies such as civics, economics, and commercial law, as well as history proper; and that science does not here include domestic science, commercial geography, or agriculture. It is, of course, not to be interpreted that the amounts of credit in foreign language recorded for any student are necessarily in a single language. There are even a few graduates who were granted credit for one year each in 3 different languages. There are a few students in School 11 who have been granted as much as 9 or 10 units of credit in 2 or more of the languages, but who have been tabulated as having 7+ units.

From this table we see that none of these schools graduates a student with less than 2.1 to 3.0—almost without exception 3—units of English, that a somewhat larger proportion of the students are graduated with 4 than with 3 units, and that a small percentage are graduated with even more.

That schools are breaking with tradition in the requirement of foreign language is to be seen in the fact that practically 10 per cent of the students are graduated without any credit in this field. The small percentage being graduated with 1 unit may reflect a practice in some of these schools of denying credit for a single year of foreign language. There is no marked modal amount of foreign language with which students are graduated, as almost two-thirds of the students are distributed in approximately equal proportions in the 2-, 3-, 4-, and 5-unit categories. From the 2.1 to 3.0-unit category the proportion drops off until we find that but 2.2 per cent are graduated with more than 7 units. The data for School 11 are remarkable in that no student was graduated with less than 3 units of foreign language and in that as many as 4 of this group of 32 students offered more than 7 units.

No student of the 312 has been graduated without some traditional mathematics, although about 10 per cent have had but a single year. The modal offering is 2 to 3 years, probably, in part at least, out of deference to current college-entrance requirements.

Only 2.2 per cent have completed their work without science, although, especially in the light of the limitation upon interpretation stated above, rather large proportions are graduated with small quantities of this work. Only about one-ninth of the students are credited with as much as 3.1 to 4.0 units of science.

History and allied subjects do not find a place in the curricula of 4.5 per cent of these graduates, an approximate fourth complete the high school with a single year, one-third with 2 years, one-fourth with 3 years, while but an approximate tenth have 3.1 to 4.0 years.

We may now draw a few conclusions of a more general nature from what appears in Table VII. It is a fact of significance that a considerable proportion of the students are permitted to regard their high-school curricula as completed when they have had little or no foreign language or practically none of the traditional mathematics. It suggests an open disregard of the older requirements for college entrance, as well as—which is a matter of greater import—a belief that a high-school curriculum with little or none of these subjects may be worth while.

The fact that large proportions of students are graduated with as little as one or two years of work in each of the subjects except English should point a moral to the specialist in each of these fields. It should teach the specialist to cease to cozen himself with the delusion that all high-school students will have a full sequence of three or four years in his field and that he can plan his work on the basis of this delusion. Even though we may be convinced of the value of consecutive work through several years in two or more subjects, we should not be oblivious to the fact that many high-school students do not have sequences—may have but a single year—in our particular field, finding it more advisable to do more extended work in other fields. For example, teachers of foreign language may need to open their eyes to the need of organizing and presenting single-year courses that are worth while in themselves without regard to any work that may follow. Similarly, teachers of science who are giving thought to their perplexing and important problem of how to develop a coherent sequence in their particular province of learning must not forget that they must continue to offer year courses that often will not be followed nor always be preceded by other year courses in science.